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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,983	04/21/2000	Patrick Christian	20155-000100US	7119

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EXAMINER

HA, YVONNE QUY M

ART UNIT	PAPER NUMBER
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2697

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,983

Applicant(s)

CHRISTIAN, PATRICK

Examiner

Yvonne Q. Ha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the "cross-reference to related application" to a foreign application (British Patent application no. 0002062.8) (page 2, lines 4-7) shall be removed from the specification

Appropriate correction is required.

Drawings

2. The drawings are objected to because the text labels are missing in figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1, 6, and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Trevitt et al. (US Patent 6,510,161).

Referring to Claims 1, 8, 9 and 10, Trevitt discloses a hardware switching system for transferring received digital data at the incoming ports (Fig. 3, reference 305) and transmitting to outgoing destination from outgoing ports (Fig. 3, reference 305) comprising of a frame transfer controller (i.e. buffer storage address generator and output stage; Fig. 3, reference 310) which

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provides data and corresponding addresses (Col.6, lines 14-18) and retrieves selected data (Col. 6, lines 23-27) using multiple addresses to access portions of each memory location (Col. 10, lines 66-67; Col. 11, lines 1-67; Col. 12, lines 1-67; Col. 13, lines 1-11) from shared memory (i.e. buffer storage, address storage, indirect addressing mechanism; Fig. 3, reference 330; Fig. 5) coupled to ports (Col. 5, lines 38-40) which stores the data and addresses to access the data (Col. 5, lines 49-60), and a reader (i.e. address storage address generator; Fig. 4, reference 450) which provides the memory address (Col. 6, lines 23-32).

Referring to Claim 6, Trevitt discloses the use of staggering data frames that have been time sliced so that on any clock cycle one memory portion is accessed for writing and on a next clock cycle the memory portion is accessed for reading (Col. 4, lines 3-9; Col. 4, lines 16-19; Col. 4, lines 30-32; Col. 4, lines 45-51).

Referring to Claim 11, Trevitt discloses the use of timeslot of data in shared memory that is readable in a Fibre Channel switch (Col. 5, lines 29-48)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trevitt et al. (US Patent 6,510,161) in view of Opalka et al. (US 6,259,699).

Referring to Claim 2, Trevitt discloses a system with timeslot handling with shared memory but failed to disclose the data is telephony data. Opalka disclosed a system with timeslot

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handling of telephony data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Trevitt timeslot handling with shared memory with the teaching of Opalka timeslot handling of telephony data (Col. 1, lines 45-48). One of ordinary skill in the art would have been motivated to combine the teaching of Trevitt timeslot handling with shared memory with the teaching of Opalka timeslot handling of telephony data to improve the data path latency and inter-frame delay associated with time slicing and bit slicing shared memory switches.

Referring to Claim 3, Trevitt and Opalka disclose a system where the incoming data is organized into timeslots, wherein the buffer storage is organized so each timeslot corresponds to a unique word location in the buffer storage (Col. 4, lines 3-9; Col. 4, lines 16-19; Col. 4, lines 30-32; Col. 4, lines 45-51)

Referring to Claim 4, Trevitt and Opalka disclose the use of a shared memory where storage is 32bits wide (Col. 10, lines 58-65; Figs. 8A-8C).

Referring to Claim 5, Trevitt and Opalka disclose a system where the addresses include bits wherein the lower order two bits of each address are used to identify one of four bytes in a word location in the buffer storage (Col. 11, lines 1-9; Figs. 8A-8C).

7. Claim 7 is rejected under 35 U.S.C 103(a) as being unpatentable over Trevitt et al. (US Patent 6,510,161) in view of Sakamoto et al. (US Patent 6,185,212).

Referring to Claim 7, Trevitt discloses a system where free and random addresses stored are used to identify portions of data are stored in one or more locations but failed to disclose consecutive addresses in storage (Figs. 7, 8A, 8B). However, Sakamoto discloses DRAM is the fastest consecutive access when performing the data writing and reading operation by using

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consecutive column access, such as the consecutive address read and write operation (col. 2, lines 39-50). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Trevitt timeslot handling with shared memory using free and random addresses with Sakamoto teaching of managing multiple queues in a common RAM or link list where each data element in a particular queue includes a pointer to the next consecutive element in the queue. One of ordinary skill in the art would have been motivated to combine the teaching of Trevitt timeslot handling with shared memory using free and random addresses with Sakamoto teaching of use of consecutive address read/write written into a memory system because it simplifies the algorithm used by the reader which provides the memory addresses for data reconstruction from multiple timeslots stored in the shared memory.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Smith (US Patent 6,011,793) discloses switching apparatus for simultaneously switching a plurality of switch units
- Trevitt et al. (US Patent 6,510,161) discloses low latency shared memory switch architecture


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne Q. Ha whose telephone number is 703-305-8392. The examiner can normally be reached on Monday-Friday 7a.m.-4p.m. Eastern.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

YQH
August 15, 2003


RICKY NGO
PRIMARY EXAMINER